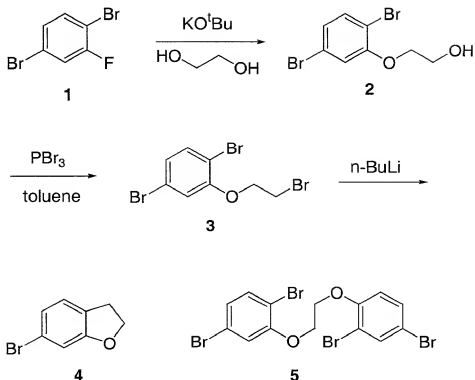


Each of the above substituents (alkyl, alkenyl, alkynyl, alkoxy, aryl, heteroaryl, or heterocyclyl) can be optionally substituted with one to three substituents as set forth in the embodiments recited above.

- 5 Methods for preparing the compounds of the present invention are illustrated in the following schemes and examples.

The first step for preparing an endothelin receptor antagonist involves the synthesis of a top piece substituent (4), ArX (X is halo) through the formation of tribromo ether (3) followed by treatment with a base as shown in Reaction Scheme A.

## REACTION SCHEME A



- 5 In Reaction Scheme A, ethylene glycol reacts with commercially available 1,4-dibromo-2-fluorobenzene (1) in the presence of potassium *tert*-butoxide to give the ether compound (2). The compound (2) is then converted to the tribromide (3) by treatment with a brominating agent ( $\text{PBr}_3$ ) in an aprotic solvent such as toluene at a temperature between about  $80^\circ\text{C}$  and about  $90^\circ\text{C}$ . The intermediates (2) and (3) can be used without purification. A small amount of water and additional  $\text{PBr}_3$  (10 mol%) may be added in the middle of the reaction to improve the conversion rate of the compound (3) into the product (4) as shown in Table 1 (entries 3 and 4). Treatment of the tribromide (3) with *n*-BuLi or phenyllithium affords the desired 6-bromo-2,3-dihydrobenzofuran (4), which crystallizes in a mixture of methanol and water. The by-product (5) formed in the reaction can be removed by filtration.
- 10
- 15

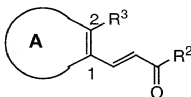
Table 1. Temperature Effect on the Bromination Reaction

entry	Temperature °C	% Conversion after 4 hours
1	25	46
2	80	90.5
3	90	92.6
4 <sup>a</sup>	90	94.6

<sup>a</sup>0.29 mol% water and 10 mol% PBr<sub>3</sub> were added after 2 hours at 90°C

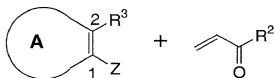
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The  $\alpha$ ,  $\beta$ -unsaturated ester or amide



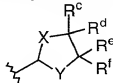
can generally be prepared in two steps:

- 1) a coupling reaction at the one position of ring A



- 10 wherein R<sup>3</sup> is CHO, Z is a leaving group such as Br, Cl, I, OTriflyl, OTosyl or Omesyl, and R<sup>2</sup> is OR<sup>4</sup> or N(R<sup>5</sup>)<sub>2</sub>; and

- 2) the conversion of the aldehyde (R<sup>3</sup>=CHO) to the desired chiral



auxiliary (R<sup>3</sup>), wherein R<sup>3</sup> represents  $\text{CH(R}^c\text{)(R}^d\text{)(R}^e\text{)(R}^f\text{)CHO}$ ; X and Y are independently O, S, or NR<sup>5</sup>; R<sup>4</sup> is (C<sub>1</sub>-C<sub>8</sub>)-alkyl; R<sup>5</sup> is (C<sub>1</sub>-C<sub>8</sub>)-alkyl or aryl; R<sup>c</sup>, R<sup>d</sup>, R<sup>e</sup> and R<sup>f</sup> are independently H, (C<sub>1</sub>-C<sub>8</sub>)-alkyl or aryl such that either R<sup>c</sup> and R<sup>d</sup> are not the same or R<sup>e</sup> and R<sup>f</sup> are not the same, or R<sup>c</sup> and R<sup>e</sup> or R<sup>d</sup> and R<sup>f</sup> can join to form a 5- or 6-membered ring, which is optionally substituted with one to three substituents selected

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